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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,689	09/17/2003	Fabrice Lestideau	00169.002741	3985

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NEW YORK, NY 10112

EXAMINER

CHAWAN, SHEELA C

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/663,689

Applicant(s)

LESTIDEAU, FABRICE

Examiner

Sheela C. Chawan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/27/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/27/03, the information disclosure statement has being considered by the examiner.

Drawings

3. The Examiner has approved drawings filed on 9/17/03.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 - 21, are rejected under 35 U.S.C. 102(e) as being anticipated by Cosatto et al., (US. 6,118,887).

As to claim 1, Cosatto discloses a method of tracking facial features (column 3, lines 11- 17, column 4, lines 28-29) in a video sequence (column 4, lines 26- 31), said method comprising the steps of:

(a) receiving facial features for tracking (column 3, lines 18- 28) in a first frame of said video sequence (note, tracking face and facial features receiving number of model such as shape 610, color 620, and motion 630, each channel is activated for collecting data for each features during a sequences of frames, all three channels being their respective analysis based on shape, color and motion fig 6A, column 14, lines 48- 64);

(b) spatiotemporally segmenting (note performing predetermined number of iterations on frame, n-gram classifier search use information obtained from all three channels to evaluate the quality of individual features, as well as combination of features, using this search, the system classifier assigns a measure of confidence for each feature, column 5, lines 15-29, uni-gram search facial features which may be considered at the uni-gram stage are the eyes, eyebrows, nostrils, mouth, chin grooves, the left outline of a head, etc., column 5, lines 36- 41, column 3, lines 21- 59, column 12, lines 11-54, bigram search represent a combination of two facial feature, such as an eye pair, eye brows, an eye and a mouth, the left and right outlines of a head , column 5, lines 42- 52) said video sequence to provide a sequence of associated two-dimensional segments, a first segment in said sequence of associated two-dimensional segments including said facial features for tracking ;

(c) identifying candidate (column 3, lines 19-22) facial features in at least a second two-dimensional segment in said sequence of associated segments (column 3,

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lines 45- 46, column 5, lines 30-63, column 8, lines 10- 51, column 5, lines 30- 63, fig 4); and

(d) verifying which of said candidate facial features correspond with said facial features for tracking (column 5, lines 30- 52, column 13, lines 62- 67, column 14, lines 1-11).

As to claims 2, 13 and 18 discloses Cosatto a method as claimed in claim 1 comprising the further step of:

(e) recovering lost facial features by using known geometric relations between facial features (column 16, lines 40- 67, column 17, and lines 1- 12).

As to claims 3, 8, 14, 16 and 21 Cosatto discloses a method as claimed in claim 1 wherein step (c) comprises the sub-steps of:

(ci) forming a sub-image including said two-dimensional segment in said sequence of associated segments (column 12, lines 28- 54);

(cii) normalizing the size of said sub-image (column 12, lines 44- 49); and

(ciii) identifying candidate facial features in said normalized sub-image (column 12, lines 28- 50).

As to claims 4 and 9, Cosatto discloses a method as claimed in 1 wherein step (d) measures (column 6, lines 40- 56) the correspondence between said candidate facial features and said facial features for tracking (column 3, lines 18-50).

As to claims 5 and 10, Cosatto discloses a method as claimed in claim 4 wherein step (d) comprises determining whether said candidate facial features are within a

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region of said facial features for tracking in a previous frame (column 8, lines 7-41, 66-67, fig 6A,).

As to claims 6 and 11, Cosatto discloses a method as claimed in claim 5 wherein step (d) further comprises determining whether said candidate facial features within each of said regions that are similar in shape (column 13, lines 28- 51, column 18, lines 16-30) to said facial features for tracking in said previous frame (column 13, lines 10-25).

Regarding claim 7, argument analogous those presented for claim 1 are applicable to claim 7. Regarding (c) recovering lost facial features by using known geometric relations between facial features as discloses by Cosatto (column 16, lines 59- 67, column 17, lines 1-12).

As to claim 12 see the rejection of claim 1 above.

As to claim 15, see the rejection of claim 7 above

As to claim 17, argument analogous those presented for claim 1 are applicable to claim 17. Regarding claim 17, a program code stored on a memory medium for tracking facial features in a video sequence, said program comprising (column 4, lines 36- 42, 51- 58, column 6, lines 8- 17).

As to claim 19, see the rejection of claim 17 above.

As to claim 20, see the rejection of claim 17 above.

Other prior art cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Liu et al., (US.7, 020, 305 B2) discloses system and method providing improved head motion estimations for animation.

Mariani et al., (US.6,707,933 B1) discloses face direction estimation using a single gray-level image.

Cosatto et al., (US.5,864,630) discloses multi-modal method for locating objects in images.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446. The examiner can normally be reached on Monday - Thursday 7.30 - 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheela Chawan
Patent Examiner
Group Art Unit 2624
Jan 17, 2007

Sheela Chawan
SHEELA CHAWAN
PRIMARY EXAMINER